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01/13/2004 10:51 AM

To Christopher Lichens/R9/USEPA/US@EPA, David
Taylor/R9/USEPA/US@EPA
cc
bcc
Subject OU1 SAP - part 1

Hello Chris and Dave,

attached is the revised Sampling and Analysis Plan (SAP), consisting of the Quality Assurance Plan (QAP) and Field Sampling Plan (FSP) for Omega OU1. As we discussed, the text revisions are shown in color to assist your review. Also attached is a response to Dave's comments. All three documents are attached in both Microsoft Word and Adobe Acrobat formats. Please note that both documents will undergo formatting and editorial review before hardcopies are made. There were only minor editorial changes made to the figures (not included), please refer to the figures in the Draft SAP for this review. After receiving your approval/comments, the document will be issued as hard copy.

Please let me know if you have any questions.
Thank you.

Tom Perina

P.S. this is the first of 3 e-mails; the next two will contain the remaining attachments.



Response to comments_rev1.pdf Response to comments_rev1.doc

Review comments by Dr. David R. Taylor of Quality Assurance Office, dated December 2, 2003, on Draft Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP), prepared by CH2M HILL and dated October 2003.

1. [Introduction] The references being cited in the Introduction are out of date. Future plans prepared by CH2M Hill should use the most recent guidance documents which are available at www.epa.gov/quality. **RESPONSE:** The references have been updated.
2. [Section A.1, Project Organization] This section fails to discuss the role of the senior data reviewer who is shown in the Organization Chart, Figure A-1. **RESPONSE:** The text was revised to clarify that the senior reviewer/review team leader (RTL) will review project planning documents, data evaluation, and deliverables.
- 3A. [Section A.3.1, Description of Work to be Performed] The Quality Assurance Office defines data validation in terms of a tiered approach. All data generated by the Contract Laboratory Program automatically undergoes a Tier 1B review using an electronic data validation program. Data generated by the Region 9 laboratory can be validated by CH2M Hill, however the QAPP should indicate whether this will be a Level 1A, 1B, 2, or 3 review. A Level 3 review would be a full validation requiring forms review and raw data review. A level 2 review would require that the QAPP discuss exactly which data would undergo a forms/QC check and which data would have a full validation. Data generated by the Contract Laboratory Program (CLP) can be validated upon request to the QA Office by the Remedial Project Manager. Data generated by the Region 9 laboratory may be validated through the QA Office depending on the availability of funding, or by CH2M Hill. **RESPONSE:** Description of the data validation work was added to section A.3.1
- 3B. This section indicates that CH2M Hill may perform modeling simulations. If modeling will be performed, the QAPP should indicate what models will be used and how their validity will be verified. A general description of the model should also be provided. **RESPONSE:** It is not known at this time what modeling, if any, will be needed. It is anticipated that the modeling that may potentially be required will include groundwater flow and contaminant transport in saturated or unsaturated soil, soil vapor flow, and contaminant transport by soil vapors. The modeling that CH2M HILL would perform will be done to 1) verify modeling results presented by OPOG, and 2) support EPA's evaluation of the RI/FS.
- 3C. This section of the QAPP does not contain any information to indicate what samples are being split between the OPOG and EPA. See the comments below on the FSP. This comment also applies to Section B.1.3, Rationale for Sampling Design. **RESPONSE:** CH2M HILL will collect splits of OPOG's samples at sampling locations selected by OPOG and approved by EPA (CDM, 2003). Split samples will be collected for all media, soil, water and

air. The OPOG samples for which splits will be collected will be selected at the time of sampling.

4. [Section A.4.1, Project Quality Objectives] This section should reference the table in Section D2, in fact it is recommended that the table to moved to this section and referenced in Section D2. Since the purpose of the study is to verify the data collected by the OPOG, the agreement between the two data sets should be the primary data objective of the study and the one upon which decisions should be based. The QAPP should also discuss what decisions may be made if "major disagreement" is observed between the two data sets.

RESPONSE: The primary objective of the study is to produce data consistent with OPOG's data quality objectives as a check on the technical soundness of OPOG's data.. The data also need to be defensible. Thus section A.4.1 defines analytical and quality control parameters consistent with OPOG's objectives which have been reviewed by the EPA. The accuracy and precision criteria of section A.4.1 are consistent with these objectives as well as with standard method capability and controls needed to provide data of known and defensible quality. The table in section D.2 is intended to be a preliminary assessment tool, similar to the EPA data validation guidance where the assessment criteria go beyond the analytical criteria and take into account variation due to field operations and matrix effects. A description has been added to the bottom of the table in section D.2 to describe the decision process subsequent to the assessment.

5. [Section A.4.2, Measurement Performance Criteria] Rather than providing definitions of precision, accuracy, etc., the QAPP should indicate that the measurement performance criteria are defined either in the CLP Statements of Work (SOWs) or in the appropriate standard operating procedures (SOPs) from the Regional Laboratory. The air samples will not be sent to the CLP since it does not have that capability. **RESPONSE:** The definitions have been included for defensibility and to identify the minimum level of effort needed. The performance criteria for the individual analyte groups are referenced in the text and described in Table A-2 to include the CLP and the regional laboratory criteria as applicable.

6. [Table A-1B, Data Uses and Needs - Soil and Air; Table A-1B, Data Uses and Needs - Water] The list of analytes provided appears to exceed those routinely performed by the Region 9 Laboratory, the likely recipient of the samples, especially the air samples. CH2M Hill should ensure that the analytes list accurately reflect the laboratory's capabilities. **RESPONSE:** The analyte lists and needed detection limits were discussed with the regional laboratory.

7. [Section B.3, Sample Handling and Custody Requirements] The Regional Sample Control Coordinator (RSCC) is now located in the Region 9 Laboratory rather than the QA Office. The QAPP should be changed to reflect this. A RSCC form also needs to be submitted to the RSCC if this has not been done already. **RESPONSE:** The text has been revised to reflect the change.

8. [Section B.4, Analytical Methods Requirements] This section should make clear that volatile organic compound (VOC) samples in soil will be collected and preserved following Method 5035 requirements. Unless frozen or otherwise preserved, the samples must be received in sufficient time to permit analysis within 48 hours. **RESPONSE:** Method 5035 has been added to section B.4. It has been noted that OPOG will be using this method to collect the samples as the oversight activity does not include collection.

9. [Section B.5.1, Field QC Procedures] It is not clear to the reviewer why trip blanks would be used preferentially to field blanks. If a blank is collected, it should be a field blank. **RESPONSE:** As noted in comment 8, since OPOG will be collecting the samples, the field blanks/rinsate blanks will be collected under that activity, thus the oversight samples will have trip blanks only. This explanation has been added to section B.5.1.

Comments on the Field Sampling Plan

10. [Section 3, Rationale for Sample Locations, Number of Samples, and Laboratory Analyses] Although the locations to be sampled by the OPOG are described in its Work Plan, it is not clear to what the present FSP refers as the most recent approved Work Plan for the site which the QA Office has on file was prepared in 2002 and the year 2003 is referenced. The document on which sampling is to be based should be clarified. There was also been a amendment submitted in November of 2003, although it does not contain any QA/QC information, nor address the remaining concerns provided to the OPOG. The present documents should, however, reference this amendment if it is relevant to the split sampling effort. **RESPONSE:** The OPOG's work plan cited is Final On-Site Soils Remedial Investigation/Feasibility Study Work Plan, dated September 29, 2003. OPOG's memo, prepared by CDM and dated November 11, 2003, is cited in the revised SAP.

Throughout this section the plan should indicate that samples will be collected by the OPOG in accordance with the procedures described in its approved Work Plan. The split FSP should indicate that that is how samples will be obtained for split sampling purposes. **RESPONSE:** The text was revised to indicate that samples will be collected in accordance with OPOG's approved plan.

This section should also indicate that surface soil and subsurface soil samples collected for VOC analysis will be collected following Method 5035. **RESPONSE:** Method 5035 will be used for VOC analysis of soil samples.

11. [Section 3.3, Soil Gas Duplicate Sample Collection] This section should indicate the type of container (Summa canisters) that will be used for the collection of the soil gas samples. It should also be discussed where these samples will be contracted as the Region 9

Laboratory is unable to perform soil gas analyses at this time; it can only analyze ambient and indoor air samples. **RESPONSE:** Sample containers are discussed in Section 5.2.3. CH2M HILL contacted Region 9 Laboratory about their ability to analyze soil gas samples; the lab will be able to perform this analysis in January 2004. The soil gas sampling effort is not anticipated before the end of January, so it is expected that Region 9 Laboratory will handle the analyses.

12. [Section 3.4, Indoor and Ambient Duplicate Sample Collection] This section should indicate the type of container that will be used for the collection of the indoor air and ambient air gas samples. **RESPONSE:** Sample containers are discussed in Section 5.3.4.

13. [Section 3.4.4, Laboratory Analyses; Section 4, Request for Analyses] This section should indicate that soil samples for VOC analyses will be analyzed using method 5035. **RESPONSE:** This information is actually in Sections 3.1.4 and 3.2.4.

14. [Section 5.1.1, Surface Soil Samples] This section indicates that CH2M Hill will be collecting its own samples during a second sampling following the sampling for the OPOG, rather than accepting samples provided by Camp Dresser McKee. If this is the case no response is required, but in the reviewer's experience, there is usually only one sample collection event, rather than two. **RESPONSE:** The text was revised to indicate that CDM will collect the samples.

15. [Section 5.1.4, Ambient and Indoor Air Summa Canister Samples] This section implies CH2M Hill will be collecting its own samples using its own equipment rather than collecting samples from CDM's equipment. This should be confirmed in the response to comments memorandum. **RESPONSE:** The text was revised to indicate that CDM will collect the samples.

16. [Section 5.4.2, Sample Labeling] This section should include provisions for the notification of the RSCC when shipping occurs. **RESPONSE:** The provision was included.

17. [Section 5.5.3, Trip Blanks] If Field Blanks are used, Trip Blanks are not considered necessary. **RESPONSE:** As noted in response to comment 8, OPOG will be collecting the samples and field blanks/rinsate blanks. CH2M HILL will collect 10 percent splits of OPOG's duplicate samples. CH2M HILL will collect trip blanks as QC samples for the oversight effort.

18. [Appendix A, Target Compound Lists and Reporting Limits] This section contained PMD points of contact, not a Target Compound List and Reporting Limits as described in

the text and the Appendix's title. **RESPONSE:** The correct content of the appendix was inserted.

19. [Appendix B, Sample Shipping and Documentation Instructions] Some of the information in this appendix is out of date with regard to who should be contacted for shipping. Contact RSCC@epa.gov for the most current information. **RESPONSE:** The contact information was verified.